Minor restriction of mineral lease development would result from surface occupancy restrictions in Vineyard Creek ACEC, Box Canyon/Blueheart Springs ACEC, Substation Tract ACEC, Silver Sage Playa ACEC, and Areas of Geologic Interest.

Mineral material sales or free use would be prohibited on 1,264 acres within the proposed Dry Cataracts National Natural Landmark. Most of this area has potential for mineral material deposits.

Two hundred twenty acres of possible mineral material deposits would be lost by transfer.

Transfer could create problems of split estate ownership, a situation where the surface is privately owned, but the subsurface mineral rights are Federally owned. This could make mineral exploration more complicated, time consuming, and expensive.

Economic Conditions

Appendix J contains a detailed comparison of the economic effects of each alternative.

Grazing-Related Economic Effects. By the end of 20 years, this alternative would lead to annual income losses of $721,000 for the livestock permittees. This is based on the ranch budgeting results. The effects by size group are shown in Table 4-4. This would be less than a 1 percent reduction in agriculture sector income. Grazing-related employment would be reduced by 40 jobs, which would be roughly 1 percent of the current employment in the agriculture sector of the local economy.

TABLE 4-4

LIVESTOCK INCOME AND EMPLOYMENT CHANGES
ALTERNATIVE D

Size Group	Proposed Grazing Use	Change in Use	Income Change	Employment Change
1	7,018	- 4,604	- $ 85,634	- 4.7
2	13,504	- 8,859	- $164,778	- 9.1
3	20,670	-13,561	- $252,235	-13.8
4	17,919	-11,757	- $218,680	-12.0
Total	59,111	-38,781	- $721,327	-39.6

The secondary (multiplier) effect of this alternative would cause additional income and employment losses of $449,600 and 25 jobs.

There would be a total of $732,500 spent on range improvement installation with this alternative. This would convert to earnings of $420,500 and 19 jobs. This would be short term in nature and the jobs would only last until the improvements are installed. In addition, there would be annual maintenance costs of $17,100, which would convert to annual income of $9,800. No jobs would be generated by this maintenance activity.

Grazing fee collections would be decreased with this alternative in the following manner:

Range Improvement Fund	*- $ 38,781*
Federal Treasury	*- $ 29,086*
State of Idaho	*- $ 9,695*
Total	*- $ 77,562*

The total capital value of the AUMs lost would amount to between $2.2 million and $9.7 million.

With this alternative, permittees in size groups 2 and 3 (a total of 75 permittees) would have difficulty maintaining a viable ranching operation.

Recreation-Related Economic Effects. By the end of 20 years, the annual income gains (direct and secondary) generated by recreation-related activities would be $2.1 million. This would represent a 15 percent increase in retail trade earnings over present levels. There would be approximately 206 jobs added in recreation-related employment by year 20. This would be an increase of 15 percent over current retail trade employment.

Crop Agriculture-Related Economic Effects. *This alternative could lead to development for irrigated agriculture of 3,109 acres (assuming allowances on all acres). These acres would be developed under the Desert Land Act. This would equate to 15 new farms of 210 acres each.*

The total cost of electricity used and lost from downstream generation would be $1.3 million. Irrigators would pay 16 percent or $209,000, while other Columbia River System electricity consumers would pay 84 percent or $1,095,000.

The potential production of crops would be 1 percent of current planning area production of alfalfa, 1 percent of barley production, and 3 percent of potato production. Total potential production would be 3,514 tons of alfalfa; 58,472 bushels of barley; and 250,935 cwt of potatoes. This level of potato production would be 0.07 percent of the 1980 national potato production. Even without an displacement of existing potato farmers, there would be no discernible effect on the overall price for potatoes.

The one-time costs of installing water delivery and irrigation systems would be $1,005,000. Annual expenditures for seed, fertilizers, herbicides, and fungicides would be $541,800. An additional $84,900 would be spent on fuel for tractors and equipment.

There would be a direct income gain of $101,000 with this alternative. The secondary income gains would amount to $248,700. Ranchers currently using the area would lose direct income of $3,000. Secondary losses would amount to $4,700. In addition, capital value of between $9,100 and $40,800 would be lost.

Farm employment would increase by 6 FTEs, while secondary employment would increase by 25 FTEs. Ranch-related direct employment losses would amount to .2 FTEs, while ranch-related secondary employment losses would be .5 FTEs. The total net employment change would be a gain of 6.2 direct and 25.5 secondary or 32 total FTEs.

Land Transfers. This alternative would have a land transfer benefit of $130,500.

Fire Suppression. Annual fire suppression costs would be $306,200 with an additional $14,000 for road maintenance. This alternative would also have an extra cost of $35,000 annually to protect the Shale Butte WSA.

Summary. Total earnings (direct and secondary) would be increased by *$1.2 million and employment by 173 jobs. The costs for range improvements and fire suppression would amount to $408,900 annually. The recreation-related activities gain slightly over the other alternatives, but it is at the expense of significant income and employment losses in the livestock industry. Some minor income and employment losses would accrue in the livestock industry as a result of agricultural development. The crop agriculture industry would receive some benefits, although rather minor, largely at the expense of other ratepayers (including existing farmers) in the Columbia River system that would pay 84 percent of the total cost of electricity.*

Sub-Alternative D - No Grazing

Fire Management

This sub-alternative would produce a 100 percent increase in acres burned (to 68,000 acres) and an increase in the number of ignitions by 50 percent (to

122 starts). This would be a long term effect, taking 10 to 20 years for full realization. The fuel buildup and carry-over each year would have a compounding effect and would make normal (precipitation/growth) years comparable with the present one year in ten high fire occurrence year. Increased ignitions would be the result of accumulated fuels. Sources of ignitions that occur presently in areas devoid of fuels or have sparce fuels do not ignite, or if ignitions take place, burn out rapidly and are not detected. Ignition sources that presently do not cause fires would have a much greater change of ignition under the No Grazing Sub-Alternative because of added fuel. This would create new fire problems.

Other considerations in this alternative would be the lack of water supplies from user wells (no longer used for livestock water), side roads that would be untraveled from lack of user use, and areas that make fire breaks due to heavy grazing, i.e., fence lines and concentration areas. These factors would make fire suppression more difficult.

Increases would be averages measured on a long term basis. The number of fires and acres burned varies greatly from year to year.

Wildlife

Under this alternative, a total of 126 parcels would be included in the Isolated Tracts program; an increase of 39 from the existing 87.

Where specific numbers of animals are listed below, we anticipate that 50 percent of the change would occur within 5 years, and the remaining 50 percent within 20 years. Refer to Appendix C, "Methodology" for an explanation of how the numbers were derived.

Bliss Rapids Snail (Candidate Endangered). Under this alternative, the habitat of the snail would be afforded greater protection through designation of Box Canyon/Blueheart Springs and Vineyard Creek as ACECs. Even though other uses would be allowed, the type and degree of development would be limited so as not to deplete the habitat value for this species.

Ferruginous Hawk (Candidate Threatened). The great reduction of direct disturbance from grazing animals and associated activities of man would allow many natural historic nest sites to once again be suitable. It would not be necessary to provide artificial nest structures. A substantial population increase, perhaps 10 to 30 pairs, could be expected.

Swainson's Hawk (Candidate Threatened). An unknown population increase is expected because the 126 wildlife tracts would be maintained in habitat suitable for this species. Artificial nest sites could potentially be provided on any or all of these tracts. By maintaining a large number and variety of these tracts, chances of success in attracting breeding Swainson's hawks are increased.

Burrowing Owl (Sensitive). A net gain of 21 pairs could be expected as a result of artificial nest site placement and burrow protection on the 126 Isolated Tracts. Positive effects of the protection of burrows from trampling, however, could be offset by taller, denser vegetation and loss of sagebrush due to increased wildfire.

Shoshone Sculpin *(Candidate Endangered)*. Under this alternative, the habitat of the Shoshone sculpin would be afforded a greater degree of protection through designation of Box Canyon and Blueheart Springs as an ACEC. Even though other uses may be allowed, the type and degree of development would be limited so as not to deplete the habitat value for this sensitive species. ACEC designation would give priority to managing for the needs of the species.

Ring-Necked Pheasant. A net increase of 15,300 birds could be expected. Benefits would result from protection and improvement of winter and nesting cover on Isolated Tracts. Substantial improvement in the cover on 130,000 acres of public land adjacent to agricultural land would result from cessation of grazing. This large positive effect would be about 50 percent offset by increased fire and destruction of brush.

Gray Partridge (Hungarian Partridge). A net increase of 2,540 birds could be expected for the same reasons as those cited for pheasants.

Sage Grouse. A net population loss of 20 percent is expected. A greatly improved forb component would be a positive effect of this alternative. However, this would be more than offset by increased wildfire, which would cause increased brush loss and cheatgrass dominance.

Pronghorn. A net gain of 137 animals could be expected. Positive effects would result from greatly improved range condition, especially an increased forb component, under no grazing pressure. Lack of direct disturbance by livestock and associated behavior of man would also be a substantial positive effect. Gains from seedings and brush protection on Isolated Tracts would be substantial as well. Development and implementation of a HMP for pronghorn

winter habitat would help increase winter survival. Development and implementation of a summer range HMP would also benefit pronghorn. However, many of the benefits would likely be offset by an increase in wildfire which would destroy brush more often and may cause damage to winter range beyond that expected under other alternatives.

Mule Deer. No change would be expected in the resident deer population because gains in habitat quality due to a lack of grazing would be offset by loss of brush to increased wildfire. A loss of 200 animals from the wintering herd would be expected due to a loss of brush to increased wildfire on the winter range. Implementation of a HMP for pronghorn winter habitat would also benefit some wintering deer.

Hybrid Cutthroat/Rainbow Trout. Under ACEC designation, the spawning habitat of this unique population would receive greater attention than without such designation.

Non-Game Species. A net loss of 3,000 pairs of breeding birds could be expected. The great positive effects of improved habitat quality under no grazing, removal of direct disturbance by livestock and associated activities of man, Isolated Tracts, and brush protection areas would be offset by increased wildfire. More brush would be lost to fire more often. This would result in more acres being dominated by the species-poor cheatgrass habitat.

Livestock Forage

Grazing Management. This sub-alternative would result in a loss of 100 percent (149,135 AUMs) of active preference.

Vegetation. The removal of livestock from public lands would have a significant positive effect on trend and condition. However, the annual acreage burned is predicted to double without grazing because of increased loading and continuity of fuels. Fire is a major cause of disturbance that has enhanced the establishment and spread of cheatgrass (Daubenmire 1940; Stewart and Hull 1949). The presence of cheatgrass helps increase burning until perennials are killed by repeated burning at short intervals. The demise of perennials is partly a result of burning four to six weeks earlier in the summer (Stewart and Hull 1949). Due to the predicted increase of annual acreage burned, trends are expected to remain as under Alternative D at:

Upward	24 percent
Stable	75 percent
Downward	1 percent

Areas with low fire frequencies are not expected to have a large increase in fires and without grazing, considerable improvement could occur. A 1 percent rise in good condition and a 5 percent rise in fair condition should result. The predicted condition class breakdown is:

Good	3 percent
Fair	13 percent
Poor	64 percent
Seeded	20 percent

Refer to Appendix D, "Projecting Ecological Condition and Trend" for an explanation of how the projections above were derived.

Threatened and Endangered Plants. Increased wildfire should not be detrimental to the proposed endangered species, the Picabo milkvetch (Astragalus oniciformis). Fires in sagebrush vegetation types may actually favor the Picabo milkvetch by reducing competition. The lack of grazing proposed for this alternative should be beneficial, resulting in positive effects for this species.

Lands

No change from Alternative D.

Wilderness

No change from Alternative D.

Natural History

No change from Alternative D.

Cultural Resources

No change from Alternative D.

Recreation

No change from Alternative D.

Soils

Erosion would be reduced by 4 percent to 4.6 tons/acre/year. Of the 1,178,989 acres in the planning area, 43,355 acres would have a severe erosion problem by the end of 20 years. This decrease from present conditions would be primarily due to no livestock grazing, ORV closures and limitations on 2,777 acres, and seeding 150 acres of sand dunes. However, erosion would increase on 34,000 acres because of increased fire, offsetting most of the benefits. Soil productivity could be reduced on 837 acres adjacent to and downwind from land transfers developed for agriculture. Appendix I contains a discussion about changes in erosion rates and the equations used to estimate erosion rates.

Minerals and Energy

No change from Alternative D.

Economic Conditions

Appendix J contains a detailed comparison of the economic effects of each alternative.

Grazing-Related Economic Effects. This sub-alternative would have drastic effects on the local livestock industry. Annual income losses would be $1.1 million or 86 percent of current livestock income. This would be a 1 percent reduction in the agriculture sector income. Grazing-related employment would be reduced by 63 jobs, which would be roughly 1.5 percent of the agriculture sector employment.

The secondary (multiplier) effect of this alternative would cause additional income and employment losses of $712,000 and 39 jobs.

There would be no range improvements with this sub-alternative.

Grazing fee collections would be reduced by the following amounts:

Range Improvement Fund	- $ 97,892
Federal Treasury	- $ 73,419
State of Idaho	- $ 24,473
Total	- $195,784

The total capital value of AUMs lost would be between $5.4 million and $24.5 million. Permittees in groups 1, 2, and 3 would have trouble meeting cash costs, thus placing the viability of 138 ranches in jeopardy.

Recreation-Related Economic Effects. Same as Alternative D.

Crop-Related Economic Effects. Same as Alternative D.

Land Transfers. Same as Alternative D.

Fire Suppression. The annual fire suppression costs would be $461,200 with an additional $14,000 for road maintenance.

Summary. *Total earnings (direct and secondary) would be increased by $600,000 and employment by 136 jobs. The fire suppression costs (there are no range improvements) would amount to $475,160 annually. This sub-alternative would have severe impacts on permittees in the planning area, while providing little additional benefit to the economy in other areas (recreation, crop agriculture, land transfers).*

ADVERSE EFFECTS WHICH CANNOT BE AVOIDED

Mitigating measures as presented in the description of alternatives, resource management guidelines, and the standard operating procedures in the

appendices, would apply to the actions proposed in each alternative. Therefore, environmental consequences described in this chapter are "unavoidable" under the goals and objectives of each alternative.

The *proposed Monument RMP* (Alternative C) would result in the following adverse effects if implemented.

Wildlife

- Pronghorn populations would decrease by *2* percent or *11* animals from present numbers in the long term.

- Mule deer populations would decrease by *1* percent or *2* animals from present numbers in the long term.

- Non-game bird populations would decrease by *3* percent or *3,200* pairs from present numbers in the long term.

- Although populations of burrowing owls would increase under the *proposed RMP*, the increase would be slightly less than under present management, as reflected in projections for Alternative A.

Livestock Forage

Grazing Management

- *Nine thousand four hundred thirty-two* AUMs would be lost to transfer of lands from Federal ownership and conversion of the land to other uses. This would significantly affect (greater than 10 percent of active preference) 34 allotments and 56 permittees. Twenty-one allotments would be completely lost to land transfer.

- Active preference would be reduced on seven allotments to bring grazing levels within carrying capacity for a total 8,427 AUM reduction. This would affect 37 permittees.

- An average of 5,667 AUMs would be lost annually for at least a year due to wildfire.

Vegetation

- The Silver Sage Playa would be transferred from Federal ownership and developed for agriculture. The value of the relict vegetation on the tract for research and reference would be lost.

Lands

- DLE applications would not be considered for transfer on *3,415* acres.

- Carey Act applications would not be considered for transfer on *14,005* acres.

- Land uses would be restricted to those not involving vehicle use on 90,103 acres closed to ORVs.

- Utility developments would be prohibited on 87,902 acres recommended suitable for wilderness designation.

Wilderness

- The wilderness resource may be adversely affected on 66,113 acres recommended nonsuitable including the Shale Butte, Little Deer, Bear Den Butte, and Shoshone WSAs.

Recreation

- Although visitor use days for mule deer hunting, pheasant and partridge hunting, and ORV use would increase under the *proposed RMP*, the increase would be slightly less than under present management as reflected in projections for Alternative A.

Soils

- Average erosion rate for the planning area would increase 8 percent from present levels to 5.2 tons/acre/year in the long term.

- The number of acres with a severe erosion problem would increase from the present number of 37,463 acres to 39,248 acres, a 5 percent increase.

Minerals

- Mineral entry and mineral material sale and free use would be prohibited on 87,902 acres recommended suitable for wilderness designation. Stipulations to protect wilderness resources could severely restrict mineral lease development. These areas are considered to have low potential for leasable mineral resources.

- Future mineral development would be somewhat restricted by ORV limitations on 2,240 acres of land considered mineral in character.

- Future mineral lease development would be somewhat restricted by surface occupancy restrictions in Vineyard Creek ACEC, Box Canyon/Blueheart Springs ACEC, Substation Tract ACEC, and Areas of Geologic Interest.

- Mineral material sale and free use would be prohibited on 1,264 acres within the proposed Dry Cataracts National Natural Landmark. Most of the area has potential for mineral material deposits.

- Land transfer would include 540 acres of existing mineral material sites and 2,623 acres of possible mineral material sources. This could cause considerable hardship and higher costs to highway departments and the public.

- Split estate ownership resulting from land transfers (totalling 56,578 acres) could make mineral exploration more complicated, time consuming, and expensive.

RELATIONSHIP BETWEEN SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The short-term uses of man's environment are described for each alternative in Chapter 2. The relationship of these short-term uses to long-term productivity for various resources is discussed in Chapter 4. The environmental consequences presented in Chapter 4 show that a difference in long-term productivity would be expected from one alternative to another. A comparative summary of the environmental consequences for each alternative is presented in Table 2-3.